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McCormick et al
U.S. Serial No. 10/067,893
Page 3 of 15AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listing of the claims in the application:

LISTING OF THE CLAIMS:

Claims 1-40. (canceled)

Claim 41. (currently amended) A method of inducing a tumor-specific immune antibody response in (i) a B-cell lymphoma tumor-bearing subject or (ii) a subject who had a B-cell lymphoma tumor and was treated so that no tumor is clinically or radiographically evident, comprising administering to said subject an effective amount of a vaccine composition comprising;

- (A) a polypeptide self-antigen useful as a B-cell lymphoma tumor-specific vaccine in a subject with [a] said tumor or ~~at risk of developing a~~ who had said tumor, encoded at least in part by a nucleic acid in the cells of said tumor, which polypeptide:
- (a) includes ~~an~~ a surface immunoglobulin epitope or epitopes unique to, or overexpressed by, said cells of said tumor, thereby distinguishing said tumor from all other tumor (i) of the same or different histological type, (ii) in said subject or in another member of said subject's species;
- (b) is produced in a cell or organism that has been transformed or transfected with ~~said nucleic acid derived from~~ a nucleic acid encoding a peptide sequence overlapping a peptide sequence encoded by said nucleic acid in the cells of from said tumor of said subject;

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- (c) is obtainable from said cell or organism in correctly folded form, without a need for denaturation and renaturation and mimics said surface immunoglobulin epitope or epitopes in their native form; and
 - (d) is capable of inducing an immune response in a mammal, including said subject, without a need for adjuvant or other immunostimulatory materials, so that administration of said polypeptide results in an antibody or cell-mediated immune response to said epitope or epitopes.
- (B) a pharmaceutically acceptable carrier or excipient.

Claim 42. (previously presented) The method of claim 41, wherein said polypeptide is a single chain antibody.

Claim 43. (canceled)

Claim 44. (previously presented) The method of claim 41 wherein the polypeptide is an scFv that includes at least part of V_H and the V_L domains.

Claim 45. (original) The method of claim 44, wherein the scFv polypeptide includes said V_H and the V_L domains.

Claim 46. (original) The method of claim any one of claims 41-45, wherein said administering is by a parenteral route.

Claim 47. (original) The method of claim 46, wherein said parenteral route is the subcutaneous, transdermal or intramuscular route.

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Claim 48. (currently amended) A method of claim 41 wherein the polypeptide vaccine is in unit dosage form in aqueous solution at a concentration between about 0.1 and about 10 mg/ml.

Claim 49. (original) The method of claim 41 wherein the subject is a human.

Claim 50. (original) The method of claim 42 wherein the subject is a human.

Claims 51-53. (canceled)

Claim 54. (previously presented) The method of claim 44 wherein said domains are linked by an amino acid linker that:

- (a) has between one and about 50 residues;
- (b) consists of between one and 12 different amino acids, and
- (c) facilitates secretion and correct folding of said polypeptide to mimic the tumor epitope in its native form in or on said tumor cell.

Claim 55. (previously presented) The method of claim 54 wherein the linker is a member of a randomized library of linkers that vary in size and sequence, and said library is encoded by nucleic acid sequences consisting of a repeated pattern of degenerate repeated triplet nucleotides having the following requirements;

- (i) position 1 of each repeated triplet cannot be the same nucleotide as position 2 or the repeated triplet;
- (ii) position 2 of each repeated triplet cannot be the same nucleotide as position 3 of the repeated triplet; or
- (iii) position 1 of each repeated triplet cannot be the same nucleotide as position 3 of the repeated triplet.

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Claim 56. (previously presented) The method of claim 55, wherein the nucleotide in the first and second positions of each repeated triplet is selected from two of deoxyadenosine, deoxyguanosine, deoxycytidine or deoxythymidine.

Claim 57. (previously presented) The method of claim 56, wherein

- (i) position 1 of each repeated triplet is deoxyadenosine or deoxyguanosine;
- (ii) position 2 of each repeated triplet is deoxycytidine or deoxyguanosine;
and
- (iii) position 3 of each repeated triplet is deoxythymidine.

Claim 58. (new) The method of claim 41 wherein said polypeptide is not fused or conjugated to another polypeptide.

Claim 59. (new) The method of claim 41 wherein said polypeptide is produced by expression of said nucleic acid in a plant cell.

Claim 60. (new) The method of claim 59 wherein said polypeptide is transiently produced in said transformed or transfected plant.

Claim 61. (new) The method of claim 41, wherein the vaccine further comprising an adjuvant.

Claim 62. (new) The method of claim 41, wherein the vaccine further comprising an immunostimulatory cytokine or a chemokine.

Claim 63. (new) The method of claim 62, wherein said cytokine is selected from the group consisting of interleukin 1, interleukin 2, interleukin 12, interleukin 18, and interferon- γ .